

W. BALDWIN SPENCER,

B.A. (Oxon.), M.A. (Melbourne). Professor of Biology in the Melbourne University; formerly Fellow of Lincoln College, Oxford; Hon. Sec. of the Royal Society of Victoria; Corr. Member Zool. Soc., Lond. Distinguished as an original investigator in Zoology and Comparative Anatomy; and as a teacher and organiser. Graduated at Oxford twelve years ago. Has published more than thirty memoirs, among which are:—"On a New Family of Hydroidea Ceratellidæ" (*Trans. Roy. Soc. Vict.*, 1890); "The Anatomy of *Megascolides Australis*," and other papers on Australian Earthworms and Planarians (*ibid.*); "On New Crustacea and New Mammals," in Report of the Horn Expedition to Central Australia (which he organised); "On the Pineal Eye in Lacertilia" (*Quart. Journ. Micro. Sci.*, 1887); "On the Habits, Blood-vessels and Lungs of *Ceratodus Fosteri*"; "On a New Genus of Marsupials from Central Australia" (*Proc. Roy. Soc. Vict.*, vol. ix.); "On the Cranial Nerves of Scyllium" (*Quart. Journ. Micro. Sci.*, 1881); "On the Early Development of *Rana temporaria*" (*ibid.*, 1885); "The Fauna and Zoological Relationships of Tasmania" (Presidential Address to Sect. D., Austr. Assoc. Adv. Sci., 1892).

JAMES WALKER,

D.Sc. (Edin.), Ph.D., Leipzig. Professor of Chemistry, University College, Dundee. An active and successful worker in chemistry, especially physical and organic. Author of numerous papers, of which the following are among the most important:—"Zur Affinitätsbestimmung Organischer Basen" (*Zeit. Physikal. Chem.*, iv. p. 319, 1889); "Ueber Löslichkeit und Schmelzwärme" (*ibid.*, v. 193, 1890); "The Dissociation Constants of Organic Acids" (*Journ. Chem. Soc.*, lxi., p. 696, 1892); "The Methyl Salts of Camphoric Acid" (*ibid.*, lxi., p. 1088, 1892); "The Electrolysis of Sodium Ethyl Camphorate" (*ibid.*, lxi., p. 495, 1893); "The Boiling Points of Homologous Compounds" (*ibid.*, part i., lxx., p. 193, 1894; part ii., lxx., p. 725, 1894); "Hydrolysis in some Aqueous Solutions" (*Proc. Roy. Soc. Edin.*, vol. xx., p. 255, 1894). Along with Prof. Crum Brown, "Electrolytic Synthesis of Dibasic Acids" (parts i. and ii. *Trans. Roy. Soc. Edin.*, vol. xxxvi., p. 211, 1891, and vol. xxxvii., p. 361, 1893). Along with J. Henderson, "Electrolysis of Potassium Allo-Camphorate" (parts i. and ii. *Journ. Chem. Soc.*, vol. lxxviii., p. 337, 1895; vol. lxxix., p. 748, 1896). Along with F. I. Hambly, "Transformation of Cyanate into Urea" (*Journ. Chem. Soc.*, vol. lxxvii., p. 746, 1895). Along with J. R. Appleyard, "Transformation of Methylammonium Cyanates into the Corresponding Ureas" (*Journ. Chem. Soc.*, vol. lxxix., p. 193, 1896).

PHILIP WATTS,

Naval Architect and Director of the War-Shipbuilding Department of Sir W. G. Armstrong, Whitworth and Co. Distinguished for his knowledge of the science and practice of Naval Architecture. Responsible designer of a considerable number of the swiftest and most powerful war-ships. Has done much original scientific and experimental work in connection with investigations of the stability of ships and floating bodies; the oscillations of ships in still water and amongst waves; the propulsion and manœuvring powers of ships. Was appointed by the Admiralty and acted for some years as assistant to the late Mr. W. Froude, F.R.S., on the analytical and experimental work carried on by that investigator. In that capacity he took part in the device and application of the process of "graphic integration" by which the oscillations of ships can be approximately determined under assumed conditions of wave motion, including the effect of fluid resistance. Has independently proposed a method of reducing the rolling of ships at sea, by the introduction of free water into a suitably formed chamber. This plan was adopted by the Admiralty for several important ships, after mathematical and experimental demonstration of its efficiency. Was entrusted with the experimental investigation of the turning powers of H.M.S. *Thunderer* made in connection with the work of the *Inflexible* Committee. Devised and applied methods for determining exactly the path traversed by the C.G. of the ship, the rate of acquisition of angular velocity, the angle of heel and other phenomena incidental to turning under the action of the rudder. This investigation led to subsequent modifications in the under-water form of ships, tending to increase their handiness. Is author of the following papers printed in the *Trans-*

actions of the Institution of Naval Architects:—"On a Method of Reducing the Rolling of Ships at Sea" (1883); "The Use of Water Chambers for Reducing the Rolling of Ships at Sea" (1885); "The Italian Cruiser *Piemonte*" (1889); "The Steering Qualities of the *Yashima*" (1898); "Elswick Cruisers Built during the last Ten Years" (1899).

CHARLES THOMSON REES WILSON,

M.A. (Cantab.), B.Sc. (Vict.). At present engaged in Investigations on Atmospheric Electricity on behalf of the Meteorological Council. Author of the following papers:—"On the Formation of Cloud in the absence of Dust" (*Cam. Phil. Soc. Proc.*, vol. viii., p. 306); "The effect of Röntgen's Rays on Cloudy Condensation" (*Roy. Soc. Proc.*, vol. lix., p. 338); "Condensation of Water Vapours in the Presence of Dust-free Air and other Gases" (*Phil. Trans.*, A., (1897), pp. 265-307); "On the Action of Uranium Rays on the Condensation of Water Vapour" (*Camb. Phil. Soc. Proc.*, vol. ix., pp. 333-338); "On the Production of a Cloud by the Action of Ultra-Violet Light on Moist Air" (*ibid.*, vol. ix., p. 392); "Condensation Nuclei produced in Gases by the Action of Röntgen Rays, Uranium Rays, Ultra-Violet Light and other Agents" (*Phil. Trans.*, A., 192, pp. 403-453); "Comparative Efficiency as Condensation Nuclei of positively and negatively charged Ions" (*ibid.*, A., 193, pp. 289-308).

LIEUT.-GENERAL PITT-RIVERS, F.R.S.

By the death of Lieut.-General Augustus Henry Lane-Fox Pitt-Rivers, F.R.S., on May 4, anthropology has lost one of her most prominent and enthusiastic students, and one whose place it will be impossible to fill.

Augustus Henry Lane-Fox was born in 1827. He served with distinction in the Crimea, at Alma and Sevastopol, being during that campaign an officer in the Grenadier Guards, and on the staff. As Lieut.-Colonel Lane-Fox he was the earliest and principal associate of Colonel, afterwards Lieut.-General, Hay, the first Commandant and Inspector-General of Musketry, and about 1855 he wrote and delivered the series of lectures which then, and since, formed a principal part of the Hythe curriculum. He had thus the honour and distinction of being prominently associated with the inauguration of one of the most important reforms in our military system. He had the unusual reputation in those days of military dandies of being an able, studious and scientific officer; but his career at Hythe was not a long one. While he was there he had the practical training and instruction of those who came to qualify as musketry instructors; and he added to, if he did not originate, the interesting collection of ancient arms and weapons and projectiles in that establishment. General Pitt-Rivers never lost his interest in military matters, and as late as 1893 he was appointed Colonel of the South Lancashire Regiment.

Few men have had the collecting instinct so strongly developed as had General Pitt-Rivers, but in his case not only were his interests extremely wide, but he had always some method in his collecting; there was invariably some principle or theory that the objects were designed to illustrate. Consequently he bought with judgment, and what in most collections are "curios" or trophies, under his arrangement became links in a chain of scientific argument, or clever suggestions of stages in the evolution of human thought or handicraft.

The spoils of over twenty years of intelligent collecting were exhibited, in 1874, in the Bethnal Green Museum, and the catalogue of this collection was published by the Science and Art Department. It is no exaggeration to say that this collection was a revelation to many people, and it and the catalogue initiated a new departure in the study of handicrafts. It was, in fact, the first practical application of the theory of evolution to objects made by man. As Colonel Lane-Fox he was, for

example, the first to demonstrate the evolutionary history of patterns, or of certain decorative features from realistic originals. He placed together, side by side, analogous objects from all parts of the world, and often he was enabled to demonstrate the origin and modifications of modern weapons, utensils, and the like. This system has its dangers; analogy may often be mistaken for homogeneity, and it must be admitted that mistakes were occasionally made or wrong inferences suggested; but with care these may be greatly reduced, and this system of studying human productions appeals alike to the general public and to scientific men. We believe that the collections exhibited in 1874 were first offered to the University of Cambridge, but now they find a final resting-place in the museum at Oxford, where they have since been greatly added to and further elaborated.

Owing to the death of the sixth Baron Rivers in 1880, Mr. Lane-Fox succeeded to large estates in Wiltshire and Dorsetshire, and he assumed the name of Pitt-Rivers. This gave him his chance; many years previously his keen eye had noted the numerous earthworks and tumuli on Cranborne Chase, but he little thought that fortune would hand them over to his keeping.

In 1881 the General commenced excavating, and in 1887 he published the first of his four quarto memoirs on the results of his digging. Many burrows had been rifled before by antiquaries, but never had excavations been so systematically and thoroughly studied in this country. These memoirs are monuments to the princely liberality, technical skill, and conscientious attention to details that characterised General Pitt-Rivers.

In order to display the finds obtained in his excavations, Pitt-Rivers built a new museum at Farnham in Dorsetshire, and once more he gave rein to his passion for collecting, and soon an extensive and valuable ethnographical museum sprang up in this remote country village. Here, systematically arranged and described, may be seen models of the sites and excavations, and every specimen and fragment thence obtained. In order to illustrate the pottery which is found in various diggings, a comparative collection of pottery and ceramics was started which now forms a very valuable epitome of this industry in all ages and climes. In the same manner, a large comparative collection of agricultural implements has been collected. Here also is the collection of locks, upon which he based the memoir he published in 1883. The collections of general ethnography are surprisingly rich, and his well selected specimens of Benin metal work constitute perhaps the most representative series extant. Words fail to express one's surprise at finding this wonderful museum buried in the depth of the country.

At Tollard Royal, near Farnham, the General very carefully restored a thirteenth century house, which is known as King John's House—this he converted into a museum mainly designed to illustrate the rise of the art of painting; and with characteristic thoroughness he began with paintings of the twentieth and twenty-sixth dynasties.

Not far off are the Larmer Grounds, a park which has been beautifully laid out and provided with numerous picturesque large summer-houses for the use of excursionists. During the warm weather a band plays on Sunday afternoons, and large numbers of people avail themselves of the General's hospitality. In this effort to provide free and innocent enjoyment to the multitude, General Pitt-Rivers received much opposition from well-meaning but misguided sabbatarians; but in this as in so many other matters, he pursued what he considered to be his duty without being influenced by the opinions or opposition of others. He was very fond of joining the happy throngs, and he was never more pleased than when many thousands assembled on

great occasions, such as the annual races. It is gratifying to know that his liberality was never abused by unseemly conduct.

General Pitt-Rivers' written contributions to anthropological literature were very numerous, and in his time he took an active part in the work of various societies.

General Pitt-Rivers was a Fellow of the Royal Society; on more than one occasion he was President of the Anthropological Institute; and he was a Vice-President of the Society of Antiquaries. His last public appearance was when he read an address as Vice-President of the Royal Archaeological Institute at Dorchester in 1893. He was Inspector under the Ancient Monuments Protection Act of 1882, and in this capacity he visited the scheduled monuments; but even his energy was powerless to counteract the restricted powers and scope of the Act.

It would be difficult to detail the wide range of subjects that interested General Pitt-Rivers, and the remarkable knowledge he had on so many subjects. He was by no means a man whose sympathies narrowed with age. His strong physique, indomitable energy and imperious will enabled him to accomplish an immense amount of work, and his trained mind, combined with wide knowledge and sympathy, rendered that work of especial merit. Possessed of an abundance of means, he spent lavishly on his beloved science. His strenuous life was devoted to the advancement of knowledge and to the instruction and recreation of the populace.

A. C. H.

NOTES.

THE council of the Society of Arts attended at Marlborough House, on May 8, when his Royal Highness the Prince of Wales, K.G., President of the Society, presented the Albert medal of the Society to Sir William Crookes, F.R.S., "for his extensive and laborious researches in chemistry and in physics; researches which have, in many instances, developed into useful practical applications in the arts and manufactures."

THE Paris correspondent of the *Times* states that the committee of the Paris Academy of Sciences has selected as candidates for election as permanent secretary, in place of the late M. Joseph Bertrand, M. Cornu, professor at the Ecole Polytechnique, and M. Darboux Jean, of the Faculty of Sciences in Paris.

By the will of the late Mr. G. J. Symons, F.R.S., a valuable bequest is made to the Royal Meteorological Society. Mr. Symons was a great lover of old books, and had succeeded in getting together an extensive meteorological library. He bequeathed to the Society all his books, pamphlets, maps and photographs a copy of which is not already in its library. He also bequeathed his Cross of the Legion of Honour, his Albert medal, and other decorations, as well as the testimonial album presented to him by the Fellows of the Society in 1879. In addition to the above he also bequeathed the sum of 200*l.*

MR. GOSCHEN made an important announcement at the annual dinner of the Iron and Steel Institute last week. He said that, with a view to developing the power of English guns by means of improving the propellant agent, a committee has been appointed, with Lord Rayleigh as chairman, to investigate the whole subject. The reference to the committee is to carry out trials to ascertain what are the best smokeless propellants for use in existing guns of all natures and in existing small arms, and to report as to whether any modification in the existing designs of guns is desirable with a view to developing to the full the powers of any propellant which may be proposed.